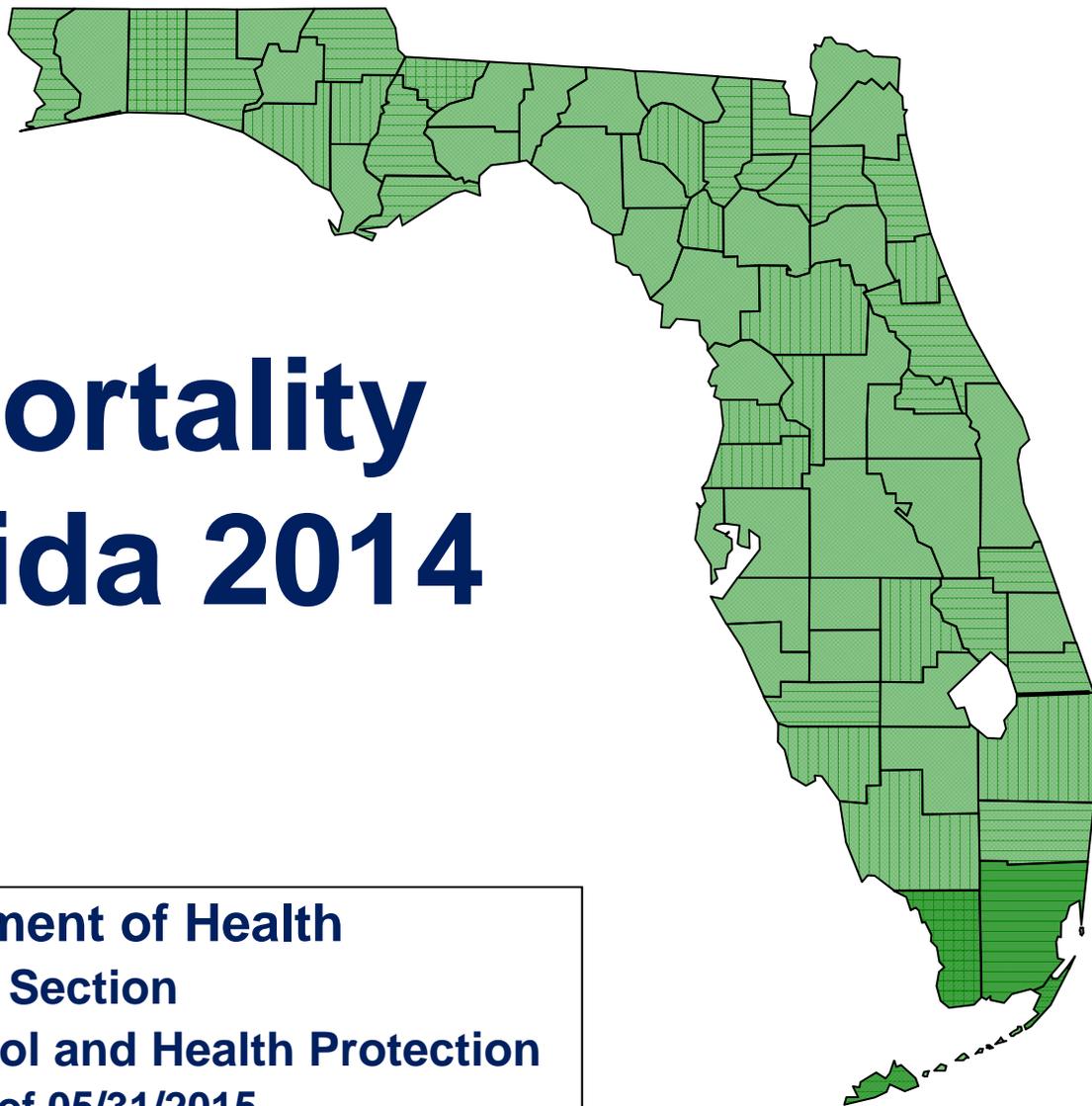


To protect, promote and improve the health of all people in Florida through integrated state, county, and community efforts.

Created: 12/04/14

Revision: 05/27/16

HIV Mortality in Florida 2014



Florida Department of Health
HIV/AIDS Section
Division of Disease Control and Health Protection
Death data as of 05/31/2015

The Epidemic in Florida

Population in 2014: 19.6 million →
(3rd in the nation)

Newly *diagnosed* HIV infections in 2014: 5,897**
(1st in the nation in 2013, up 17% from 2013 in FL)

Newly *diagnosed* AIDS cases in 2014: 2,349**
(1st in the nation in 2013, down 21% from 2013 in FL)

Cumulative pediatric AIDS cases *diagnosed* through 2014: 1,548**
(2nd in the nation in 2013)

Persons *diagnosed* and living*
with HIV disease through 2014: 110,000→**
(3rd in the nation in 2013)

HIV prevalence estimate through 2014: 126,100
(accounts for 12.8% national estimated unaware of their status)

HIV Incidence Estimates in 2013: 4,120
(There was a 18% decrease from 2007-2013)

HIV-related deaths in 2014: 878
(Down 6% from 2013)

57% White
15% Black
24% Hispanic
4% Other*

30% White
47% Black
21% Hispanic
2% Other*

* Other = Asian/Pacific Islanders; American Indians/Alaskan Natives; multi-racial.

** Data by year of diagnosis for 2014, data as of 06/30/2015

*** Living (prevalence) data as of 06/30/2015

HIV Mortality in Florida

- Ⓜ **Resident HIV deaths due to HIV disease represent persons who resided in Florida and whose underlying cause of death was HIV disease, regardless if they were reported with HIV disease in Florida or not.**
 - The data source is death certificate data from the Florida Department of Health, Bureau of Vital Statistics.

- Ⓜ **HIV case deaths are known cases of HIV disease (regardless of AIDS status) reported in Florida and are known to be dead, regardless of the cause or residence at death. It is important to understand if any known HIV/AIDS cases died in any given year for estimates of the current burden of HIV/AIDS care and treatment needs within the state.**
 - The data source is the Florida HIV/AIDS Reporting System (eHARS) from the Florida Department of Health, Bureau of Communicable Diseases.

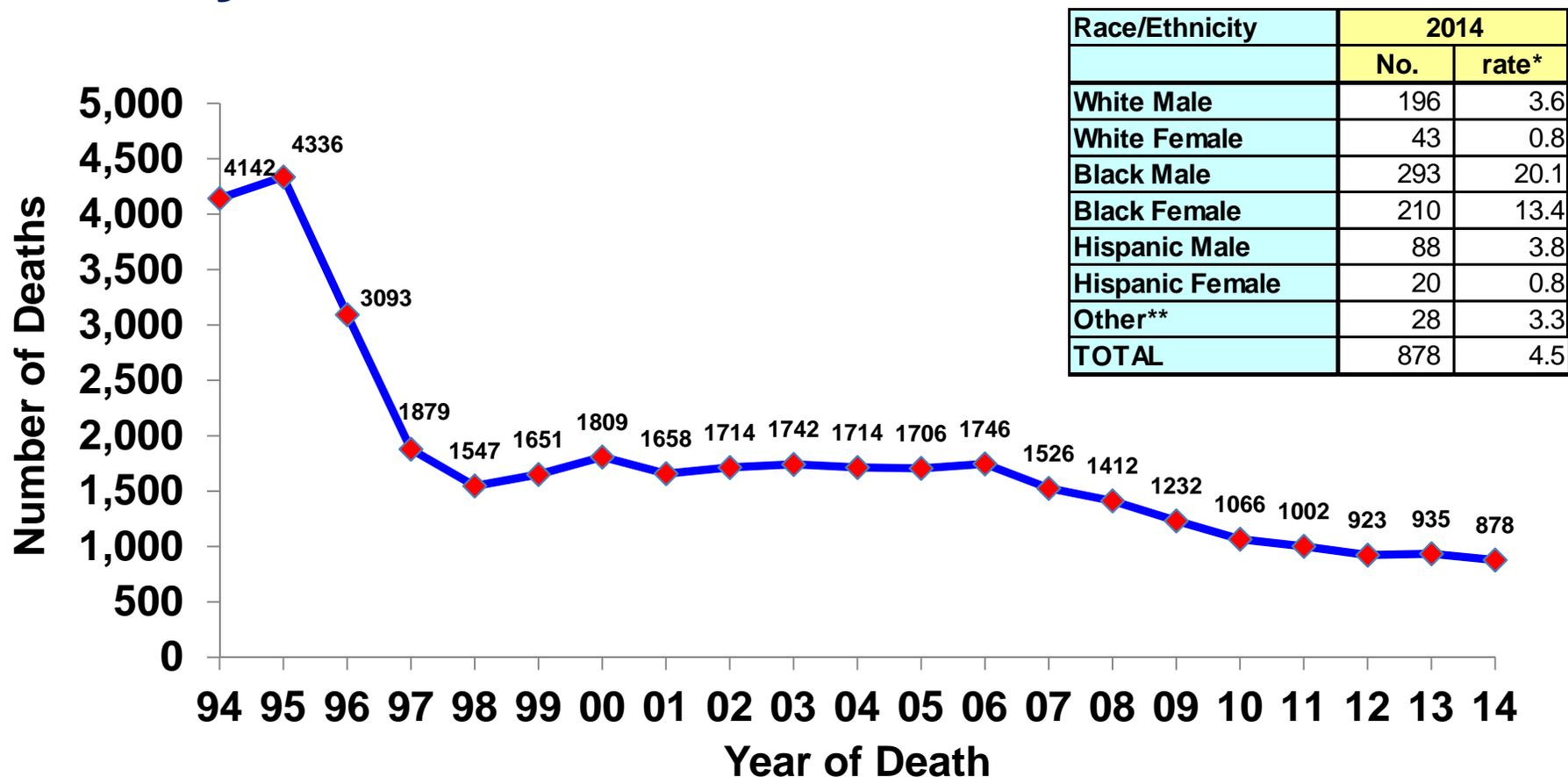
HIV Mortality in Florida (con't)

- Ⓡ Rates are expressed as deaths per 100,000 population based on population estimates, DOH, Office of Planning, Evaluation and Data Analysis**
- Ⓡ A new national system for coding death certificates (ICD-10) began in 1999, which resulted in an increase of approximately 14% in the annual number of HIV/AIDS deaths.**
- Ⓡ Other includes Asian/Pacific Islander, American Indian/Alaska Native, Multiracial and/or Other/Unknown races. Males and females are combined per the low number of resident deaths.**

Note: HIV/AIDS deaths decreased markedly from 1996-1998, associated with the advent of HAART in 1996. Yearly declines since 2007 appear promising.

Source: Bureau of Vital Statistics and Bureau of Communicable Diseases, death certificates coded to HIV/AIDS as underlying cause.

Resident Deaths** Due to HIV Disease, by Year of Death, 1994-2014, Florida



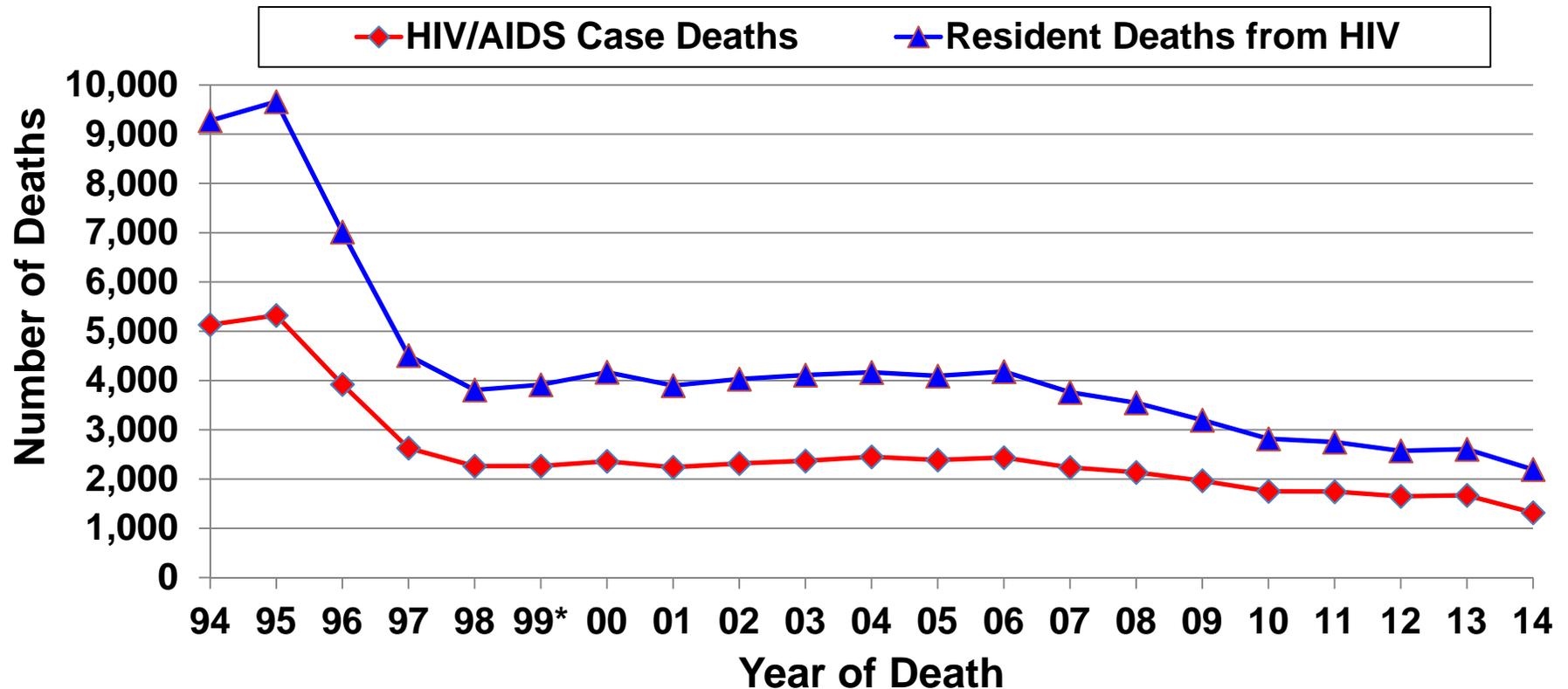
Note: The number of HIV-related deaths in 2014 decreased by 6% from the previous year, and 79% since the peak year in 1995. Since 2007, deaths have maintained a downward trend.

*In 1999, the underlying cause-of-death classification scheme changed from ICD-9 to ICD-10;

**Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015). Population data were provided by Florida CHARTS (as of 07/09/2015).



HIV/AIDS Cases** Known Dead, Regardless of Cause Compared to Resident Deaths*** Due to HIV Disease, by Year of Death, 1994-2014, Florida



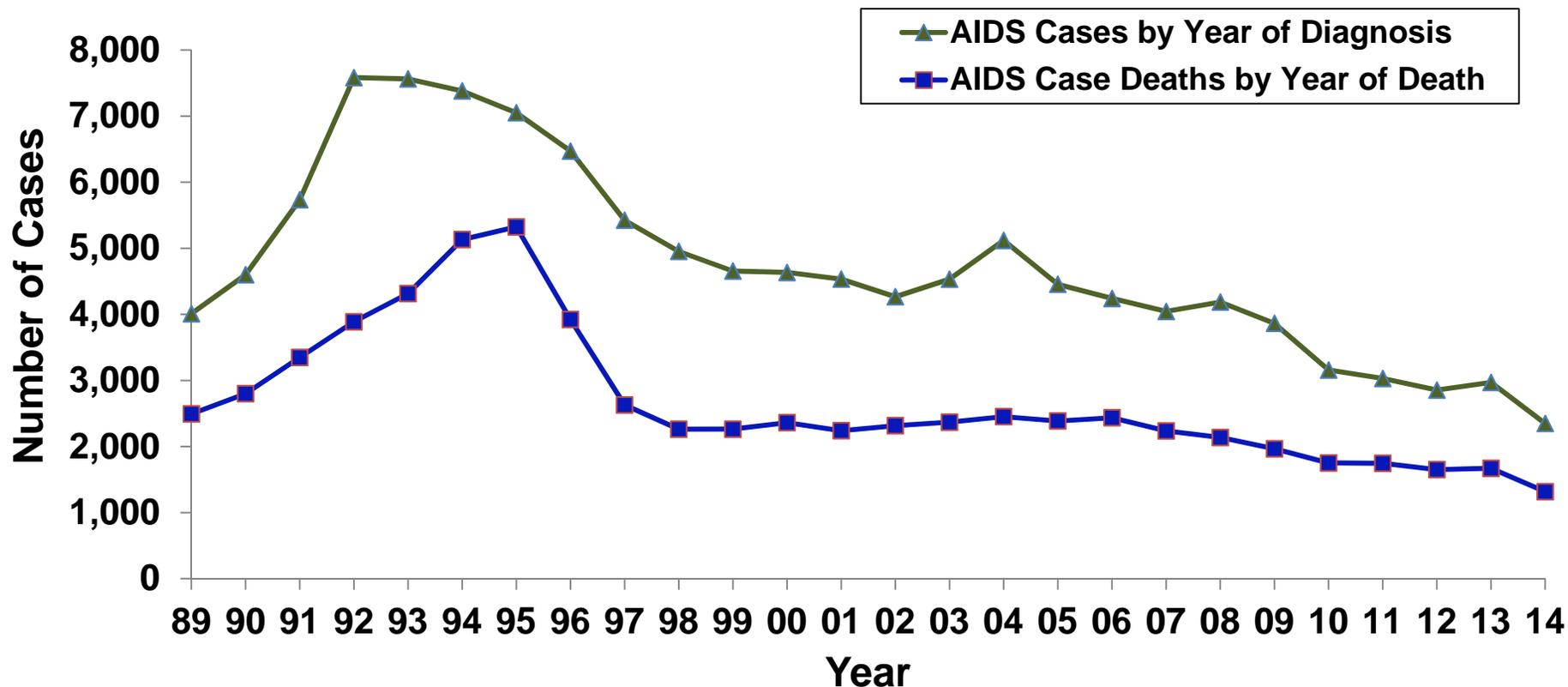
*In 1999, the underlying cause-of-death classification scheme changed from ICD-9 to ICD-10;

**Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015)

***Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015)



AIDS Cases, by Year of Diagnosis, Compared to AIDS Cases Known Dead, by Year of Death, 1989-2014, Florida*

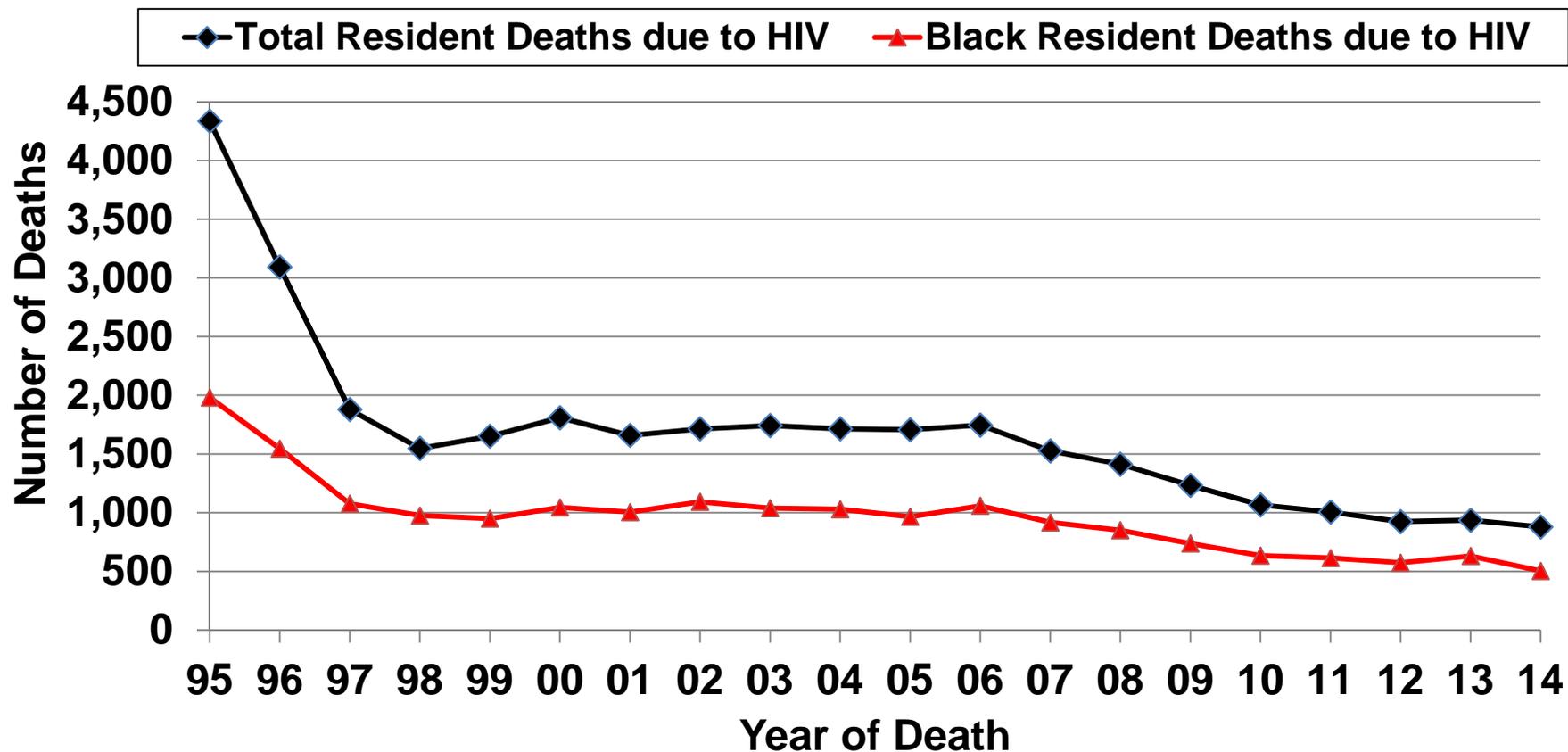


Note: The peak in AIDS diagnoses during 1993 can be associated with the expansion of the AIDS surveillance case definition implemented in January 1993. The overall declines in new AIDS cases and deaths of persons with AIDS are due in part to the success of highly active antiretroviral therapies, introduced in 1996. In recent years, AIDS diagnoses and deaths of persons with AIDS have continued to decrease.

*Source: Florida Department of Health, Office of Vital Statistics, Death Certificates (as of 05/31/2015).



Total Resident Deaths Due to HIV Disease, Compared to Resident Deaths Due to HIV Disease Among Blacks, by Year of Death*, 1995-2014, Florida



Note: There was a 6% decrease in total resident death due to HIV from 2013 to 2014. A similar trend was seen among blacks where there was a 20% decrease in deaths due to HIV in the same period.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015).



Resident Deaths* Due to HIV Disease, by Race/Ethnicity and Year of Death, 2008-2014, Florida

Year of Death	Total		White		Black		Hispanic	
	#	% change	#	% change	#	% change	#	% change
2008	1,412		364		850		177	
2009	1,232	-12.7%	323	-11.3%	737	-13.3%	160	-9.6%
2010	1,066	-13.5%	286	-11.5%	634	-14.0%	122	-23.8%
2011	1,005	-5.7%	258	-9.8%	613	-3.3%	123	0.8%
2012	923	-8.2%	218	-15.5%	576	-6.0%	113	-8.1%
2013	935	1.3%	249	14.2%	540	-6.3%	116	2.7%
2014	878	-6.1%	239	-4.0%	503	-6.9%	108	-6.9%

Note: Overall, there has been a 79% decline in the number of Florida resident deaths due to HIV disease in Florida from 1995 (the peak of resident HIV deaths) to 2014. As of 2014, blacks still constitute a majority of HIV-related deaths (57%) whereas Hispanics constitute a low proportion of HIV-related deaths (12%). The total number of HIV-related deaths in 2014 decreased by 6% from the previous year.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015)



Resident Deaths* Due to HIV Disease, Number and Rate** by Race/Ethnicity, Sex and Year of Death, 2010-2014, Florida

Race/Ethnicity	2010		2011		2012		2013		2014	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
White Male	225	4.2	201	3.8	179	3.4	197	3.7	196	3.6
White Female	61	1.1	57	1.0	39	0.7	52	0.9	43	0.8
Black Male	388	28.1	362	25.9	314	22.3	323	22.5	293	20.1
Black Female	246	16.4	251	16.6	262	17.2	217	14.0	210	13.4
Hispanic Male	96	4.6	97	4.5	92	4.2	93	4.1	88	3.8
Hispanic Female	26	1.2	26	1.2	21	0.9	23	1.0	20	0.8
Other (both sexes)	24	3.1	11	1.4	16	2.0	30	3.6	28	3.3
TOTAL	1,066	5.7	1,005	5.3	923	4.8	935	4.8	878	4.5

Note: Racial/ethnic disparities continue to be evident in the death rate data, where both black males and black females have the highest death rates.

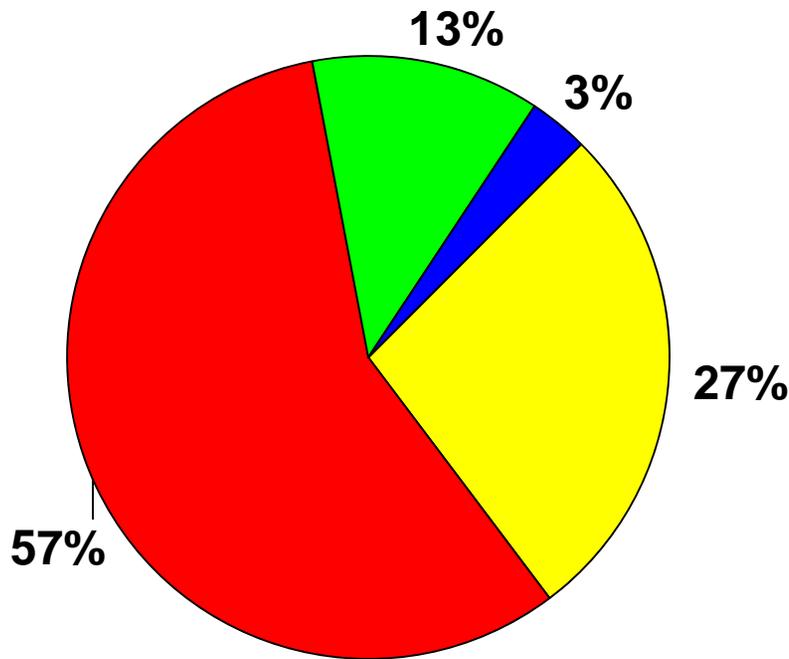
*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015).

**Source: Population data are provided by Florida CHARTS.

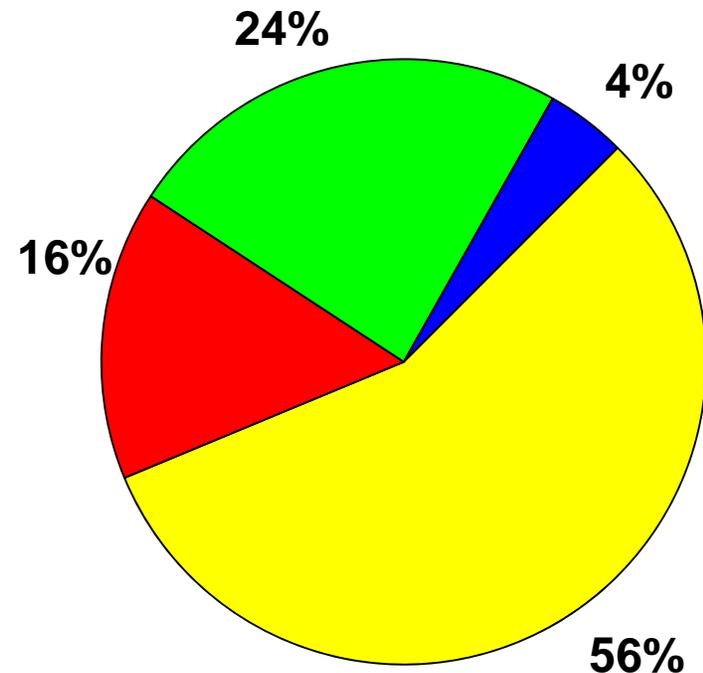


Resident Deaths Due to HIV Disease, and State Population*, by Race/Ethnicity, 2014, Florida

Resident Deaths
N=878



Population Estimates
N=19,548,031

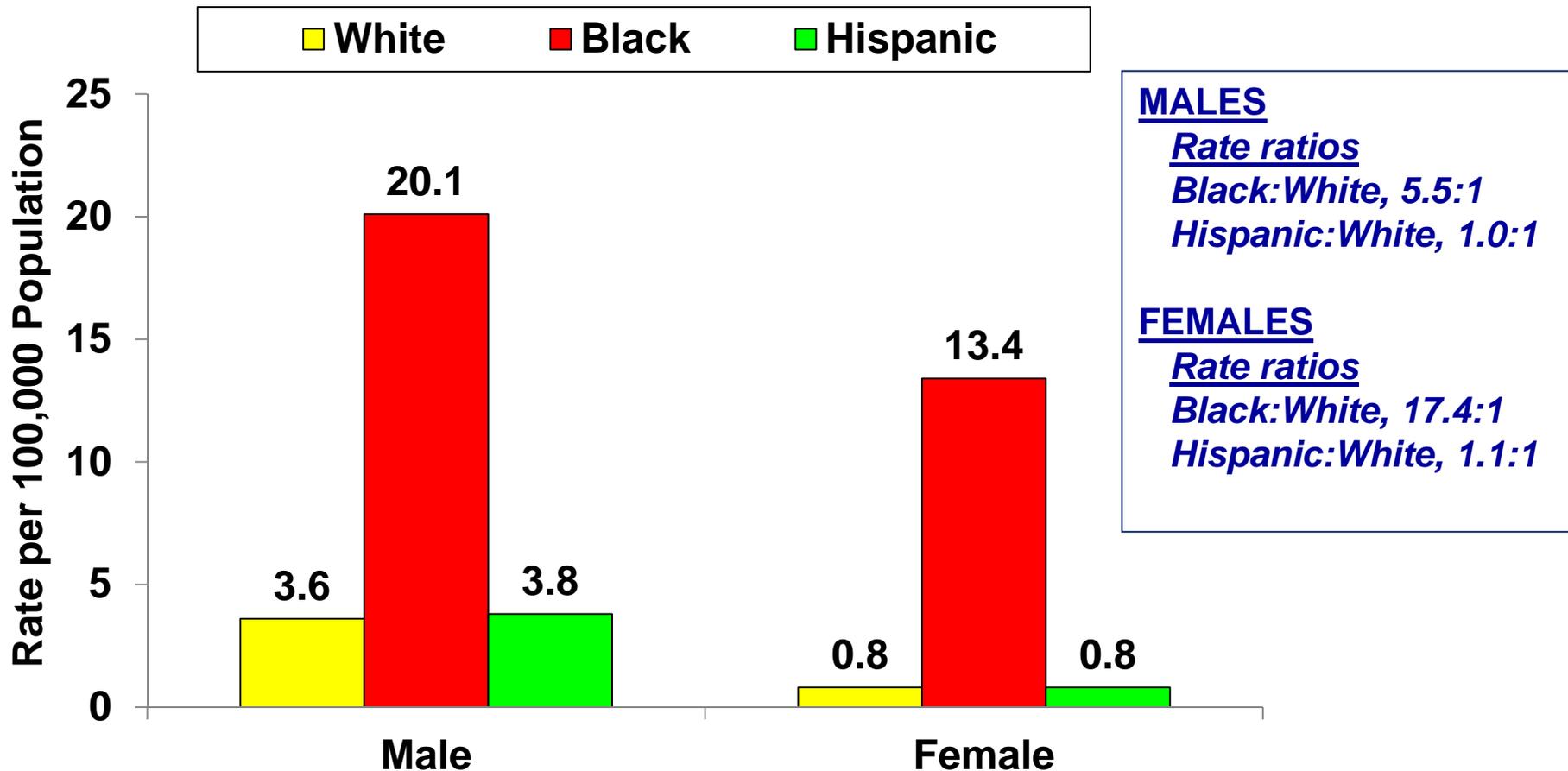


Note: In this 2014 snapshot, the majority of resident deaths due to HIV disease were observed among blacks (57%), followed by whites (27%), then Hispanics (13%) and others (3%). Blacks represent 16% of Florida's population yet account for the majority of resident deaths due to HIV disease. This indicates a disparity in resident deaths due to HIV disease among blacks.

*Source: Population estimates are provided by Florida CHARTS as of 7/9/2015

**Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and Multi-racial individuals.

Rate* of Resident Deaths** due to HIV Disease, by Sex and Race/Ethnicity, 2014, Florida



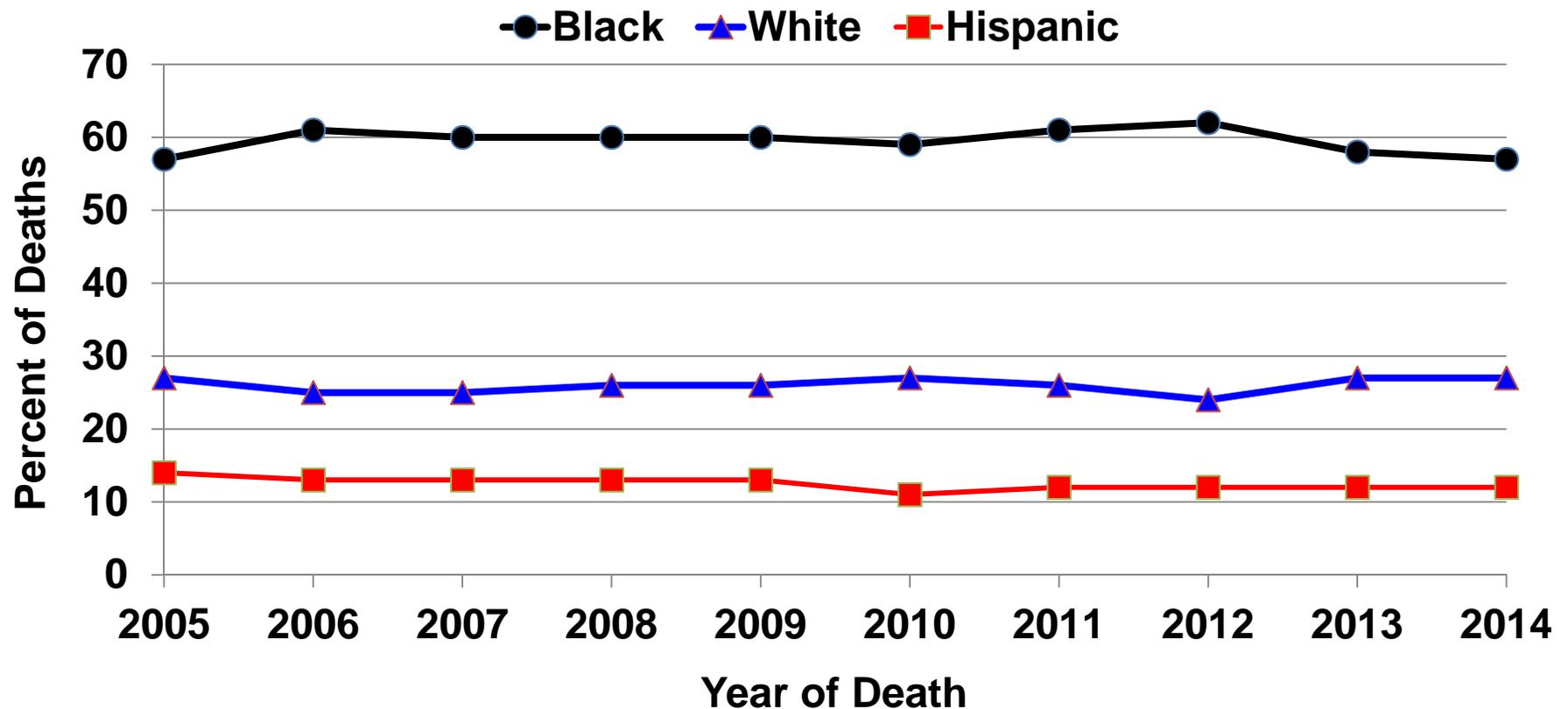
Note: In 2014, black males were nearly 6 times more likely than white males to die of HIV disease. The HIV disease death rate among black females was 17-fold greater than the rate among white females. Hispanic females rate were slightly higher than the rate among their white counterpart. Hispanic males rate were equivalent to the rate among their white counterpart.

*Source: Population data were provided by Florida CHARTS (as of 07/09/2015).

**Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015).



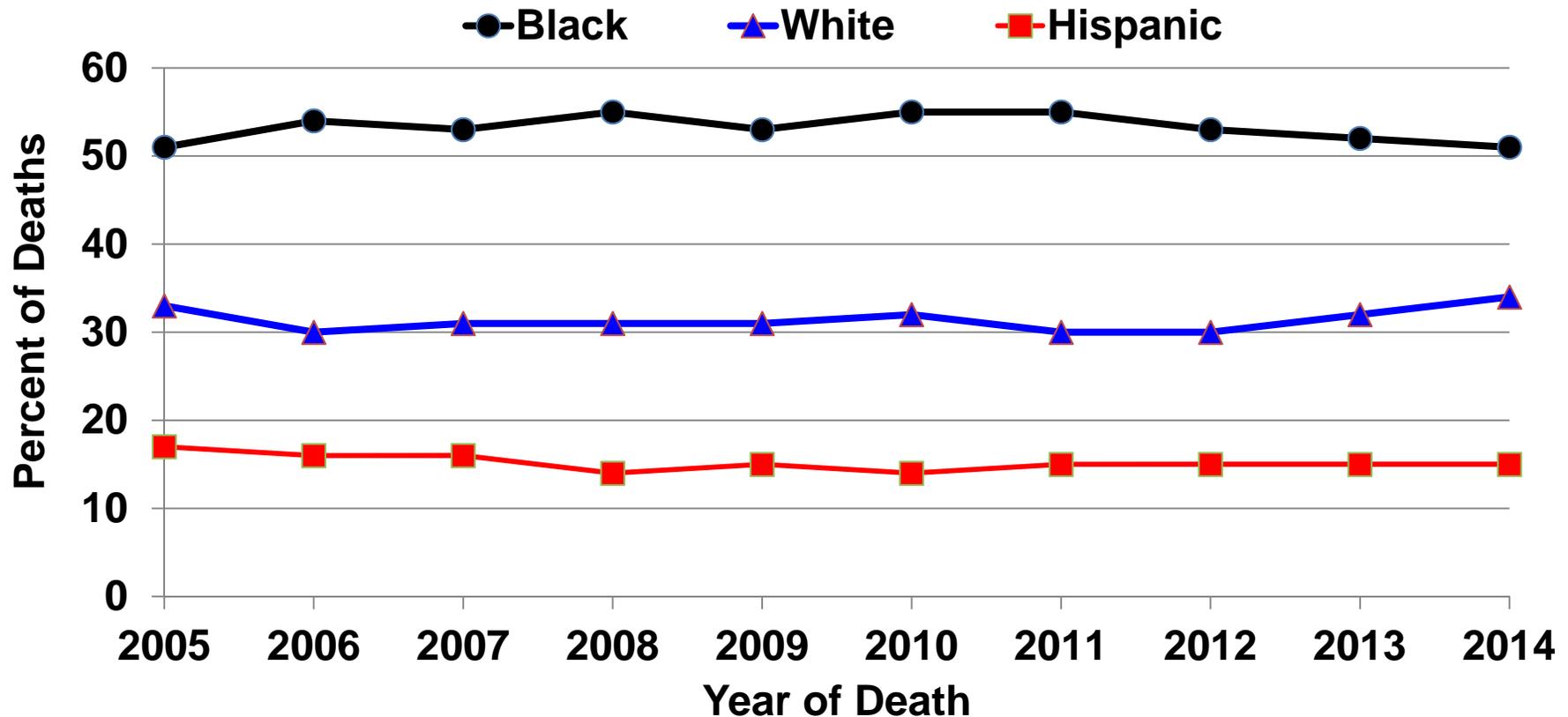
Resident Deaths* Due to HIV Disease, by Race/Ethnicity and Year of Death, 2005-2014, Florida



Note: Over the past ten years, the proportional distribution of resident HIV deaths due to HIV by race/ethnicity has remained fairly level. In 2014, the proportional distribution by race/ethnicity was: 27% among whites, 57% among blacks, 12% among Hispanics.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015).

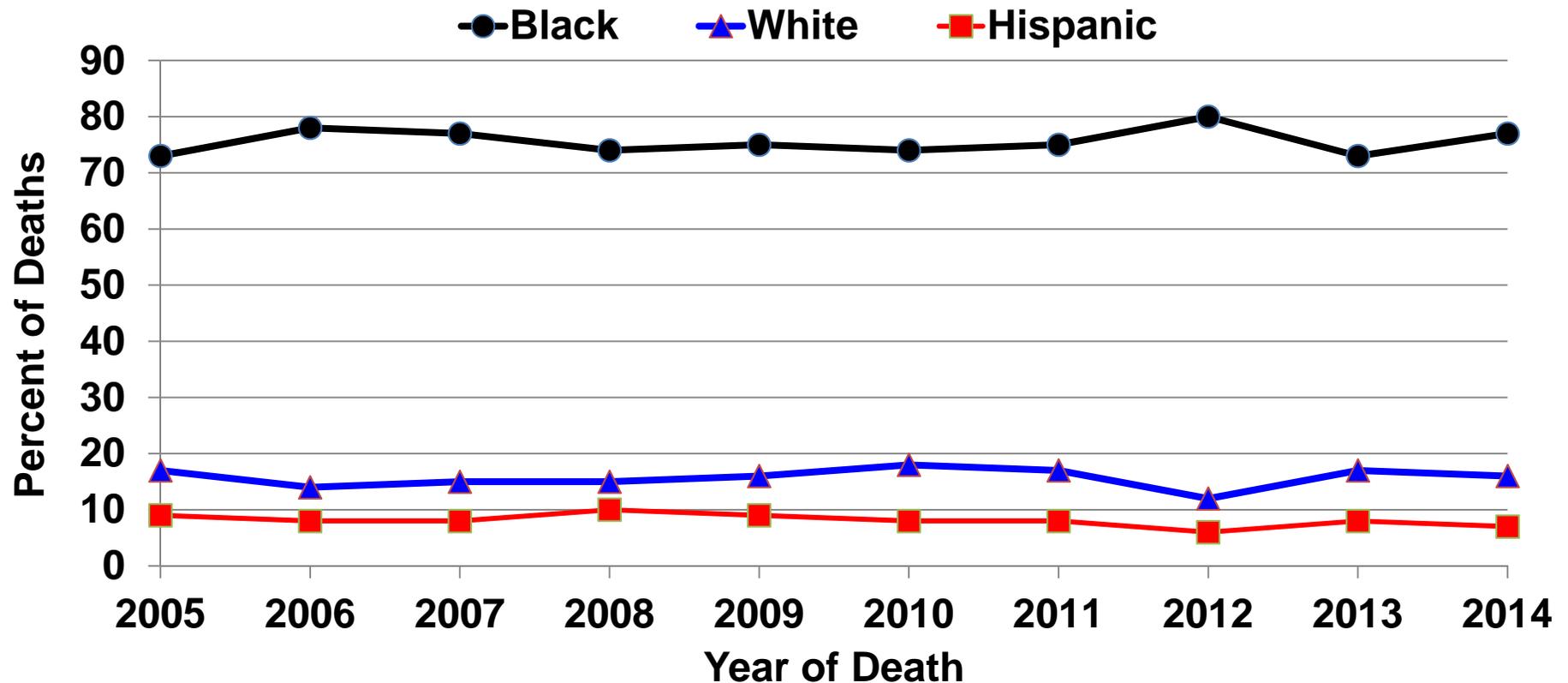
Resident Deaths* Due to HIV Disease Among Males, by Race/Ethnicity and Year of Death, 2005-2014, Florida



Note: Over the past ten years, the proportional distribution of male resident HIV deaths due to HIV by race/ethnicity has remained fairly level. In 2014, the proportional distribution by race/ethnicity was: 34% among whites, 51% among blacks and 15% among Hispanics.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015).

Resident Deaths* Due to HIV Disease Among Females by Race/Ethnicity and Year of Death, 2005-2014, Florida



Note: In 2014, the proportional distribution of female resident HIV deaths due to HIV disease by race/ethnicity was: 16% among whites , 77% among blacks and 7% among Hispanics. This compared to 17%, 73% and 8%, respectively for 2013.

*Source: Florida Department of Health, Office of Vital Statistics, Death Certificates (as of 05/31/2015).

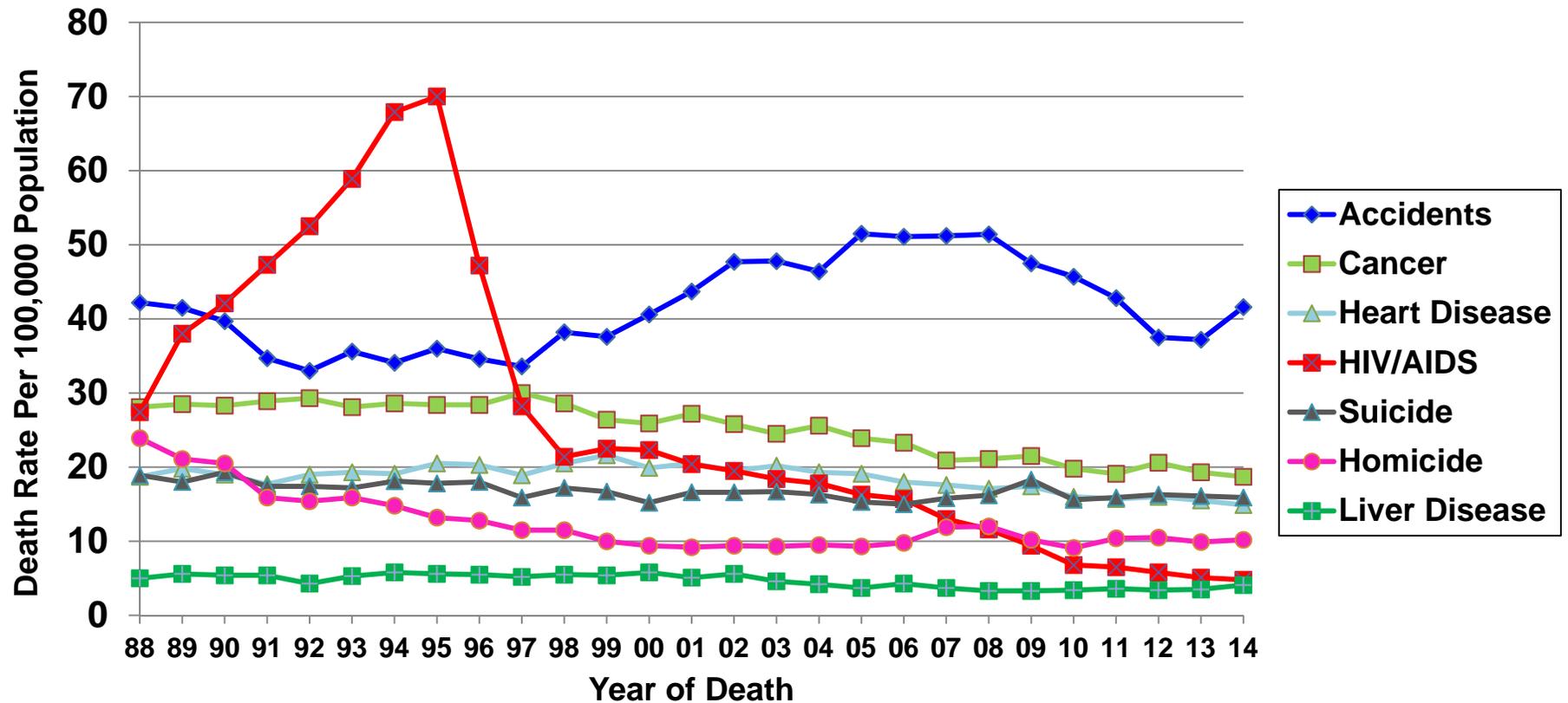


Resident Deaths Due to HIV Disease Among Persons 25-44 Years Old

Focusing on persons 25 to 44 years old emphasizes the importance of HIV disease among causes of death. Compared with rates among other age groups, the rate of death due to HIV disease is relatively high in this age group, but rates of death due to other causes are relatively low.

People 25-44 years old represent more than one-half of all newly reported cases of HIV disease in Florida. The large number of cases in this age group presents challenges for resources. Beyond that, deaths among this age group represent a significant source of years of potential life lost (YPLL). The average American can expect to live about 78 years; deaths due to HIV disease in those 25-44 represent between 34 and 54 YPLL each. Between 25 and 44 years of age people are typically working and having children. Deaths in this age group can potentially have large impacts on society from that perspective. Additionally, HIV disease-related deaths account for a larger proportion of overall deaths in this age group compared to other age groups.

Death Rates* for the Top 7 Leading Causes of Death** Among Persons 25-44 Years Old, by Year of Death, 1988-2014, Florida



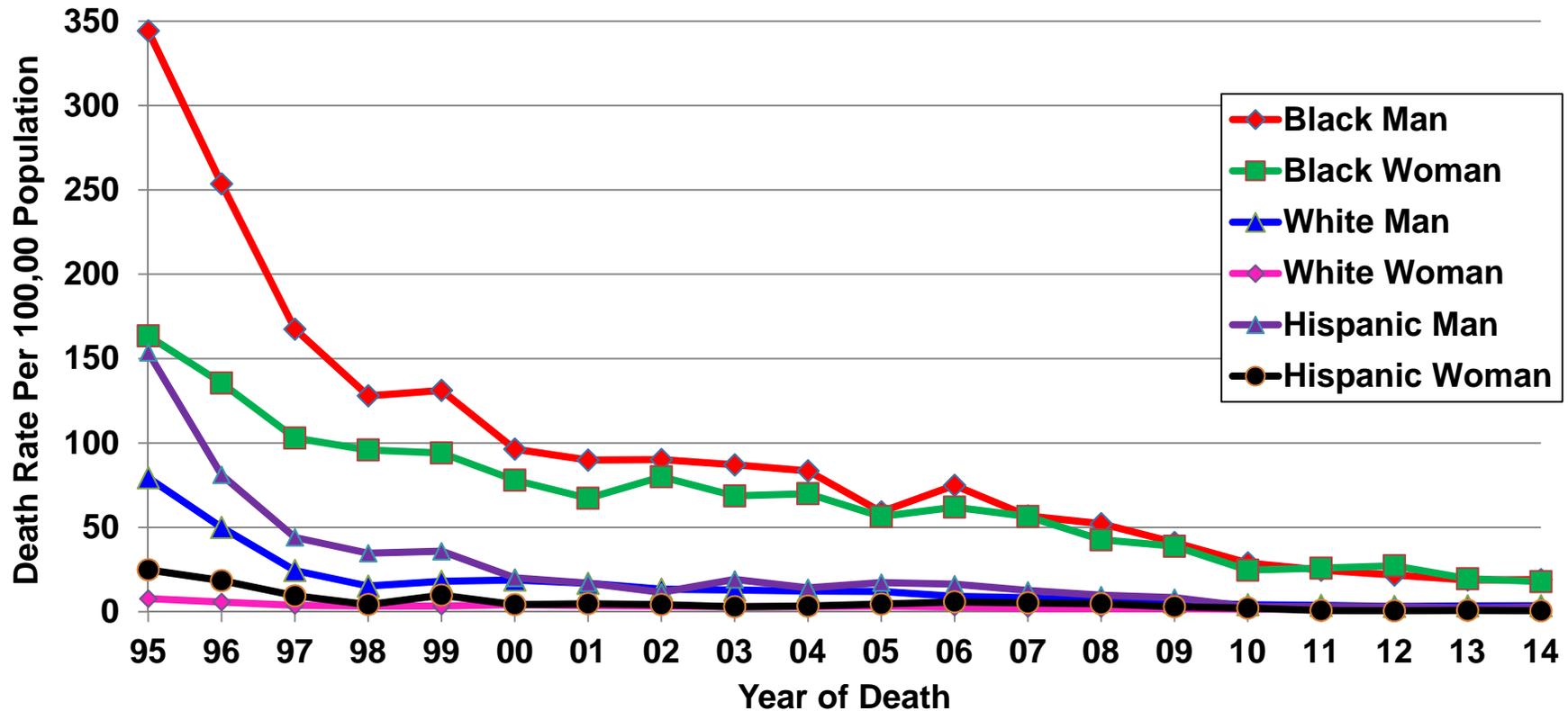
Note: The peak year for resident deaths due to HIV for person 25-44 years old was 1995. HIV was the 6th leading cause of death for this age group from 2009 through 2014.

*Source: Population data were provided by Florida CHARTS as of 07/09/2015.

**Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015).



Annual Death* Rates** due to HIV Disease, Among Persons 25-44 Years Old, by Race/Ethnicity and Sex, 1995-2014, Florida



Note: In every racial/ethnic group, the death rate has decreased greatly since 1995.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/31/2015).

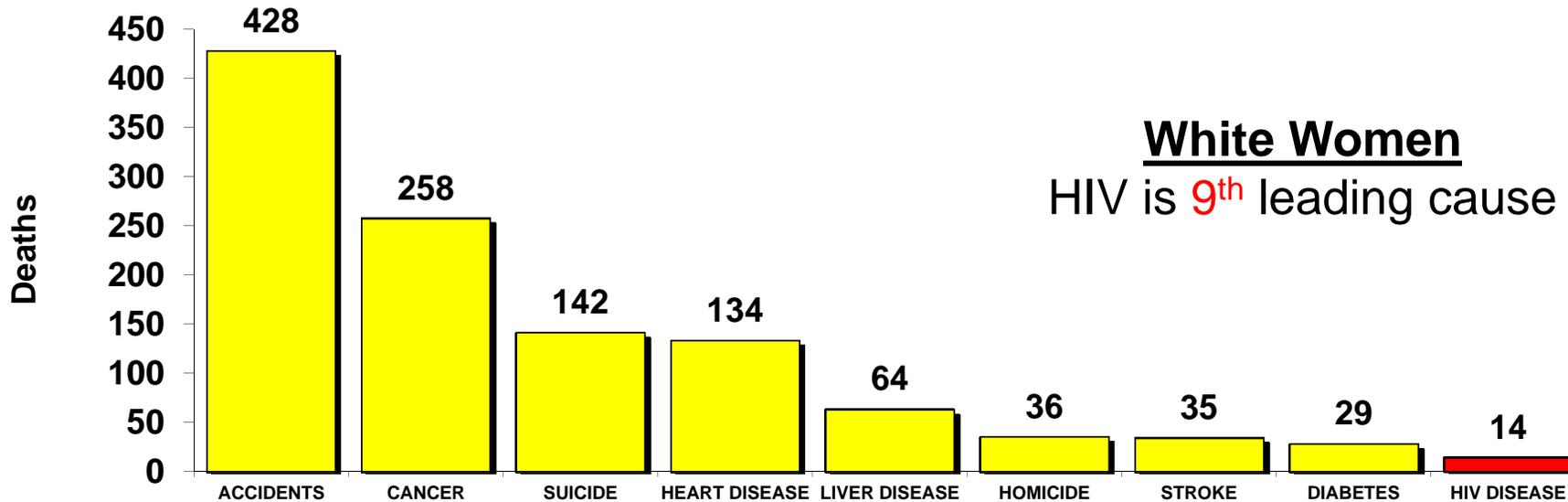
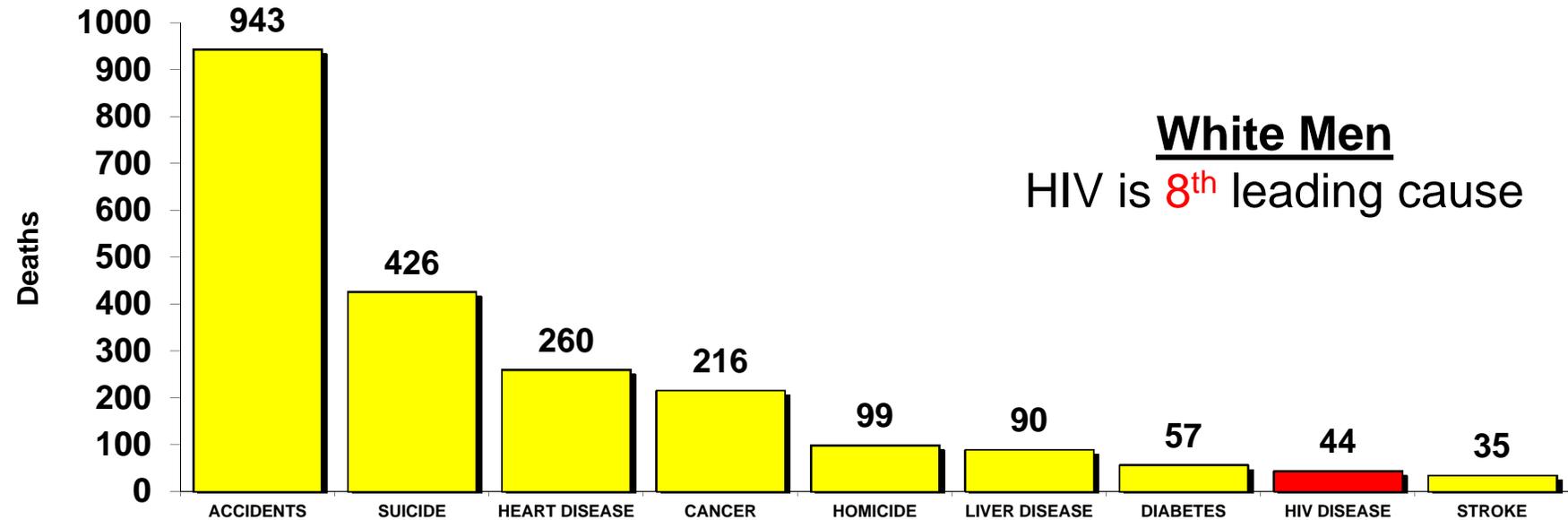
**Population data are provided by US Census Bureau.



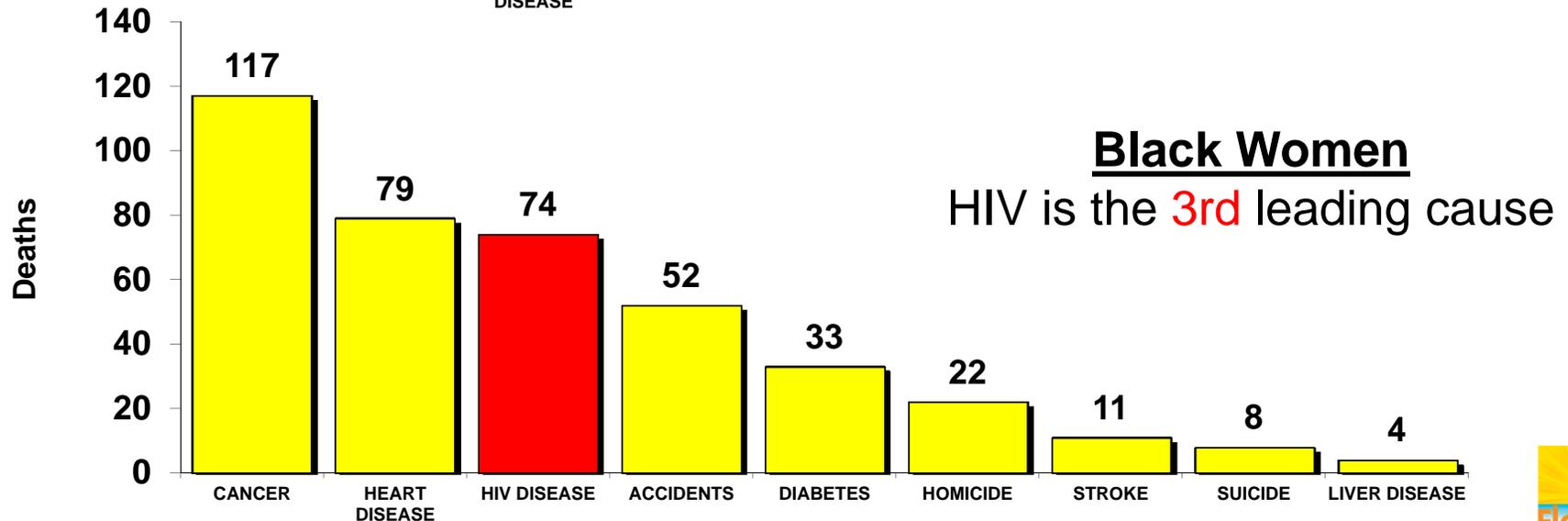
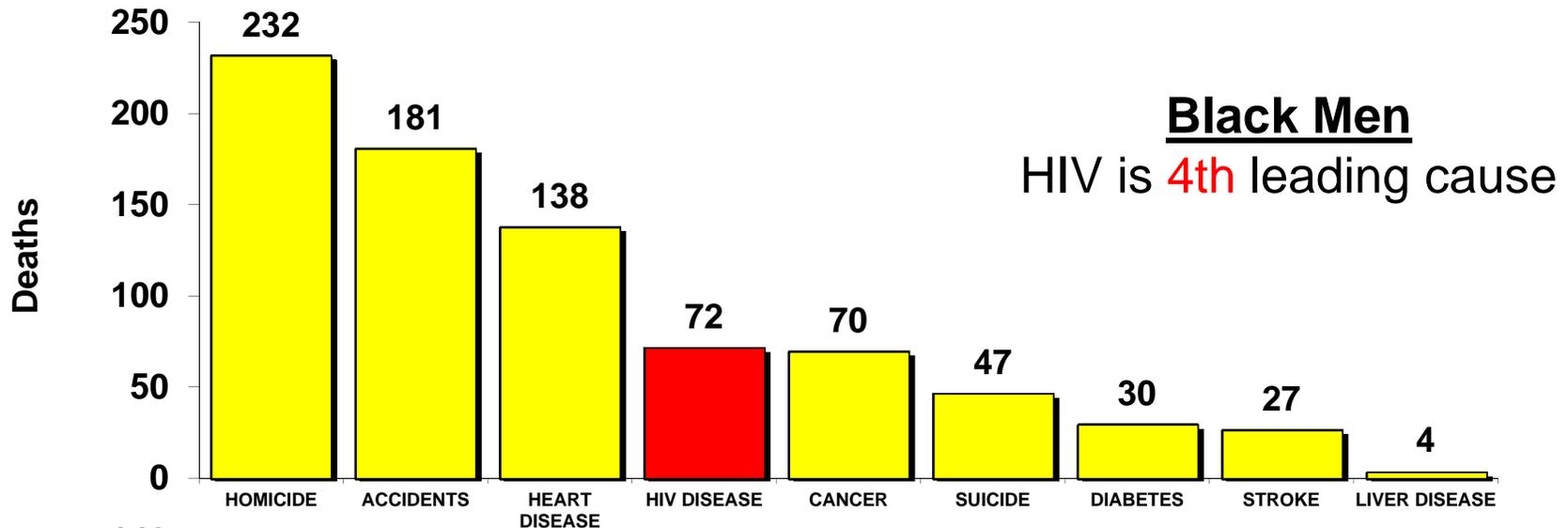
Deaths Due to HIV Disease Among Persons 25 to 44 Years Old, 2014, Florida

- HIV is the 6th leading cause overall
- HIV is the 9th leading cause among whites, (*down from 8th in 2013*)
- HIV is the 5th leading cause among blacks, (*same as 2013*)
- HIV is the 7th leading cause of death among Hispanics (*up from 8th in 2013*)
- HIV is still the 6th leading cause of death among males and the 5th leading cause among females:
 - Among Males:
 - HIV is the 8th leading cause among whites,
 - The 4th leading cause among blacks and,
 - The 7th leading cause among Hispanics,
 - Among Females:
 - HIV is the 9th leading cause among whites, (*down from 8th in 2013*)
 - **NOW** the 3rd leading cause among blacks (*down from 2nd in 2013*) and
 - HIV is tied for the 8th leading cause of death among Hispanics.

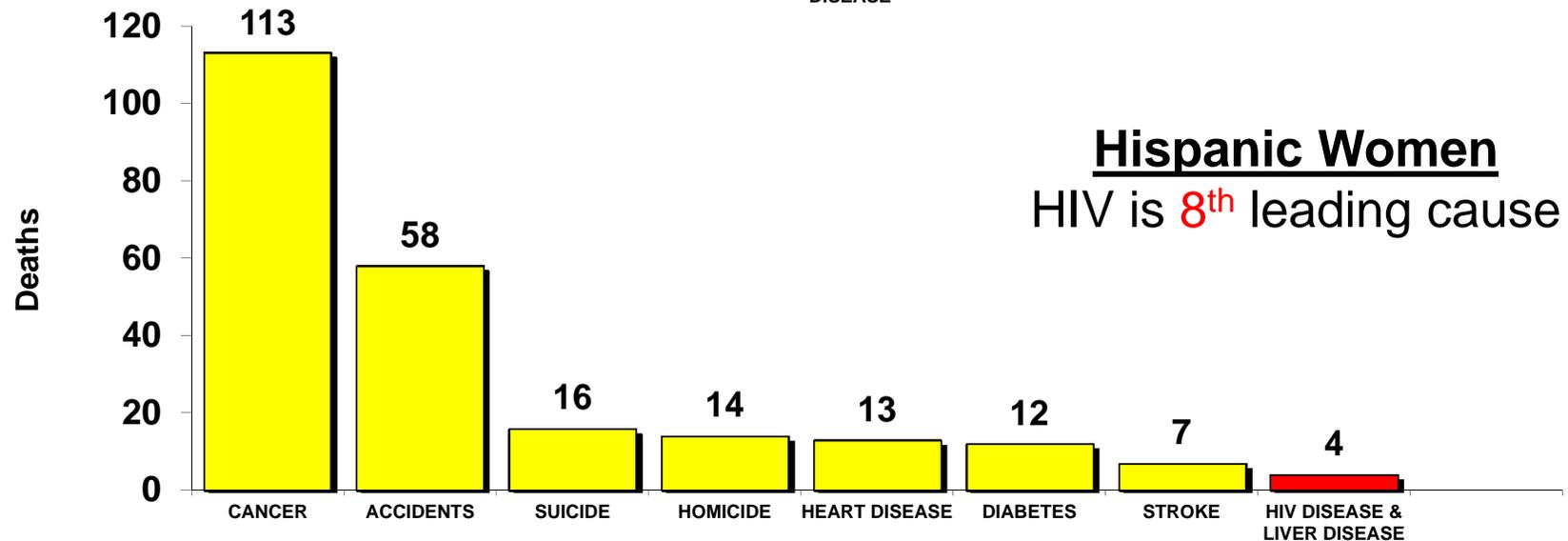
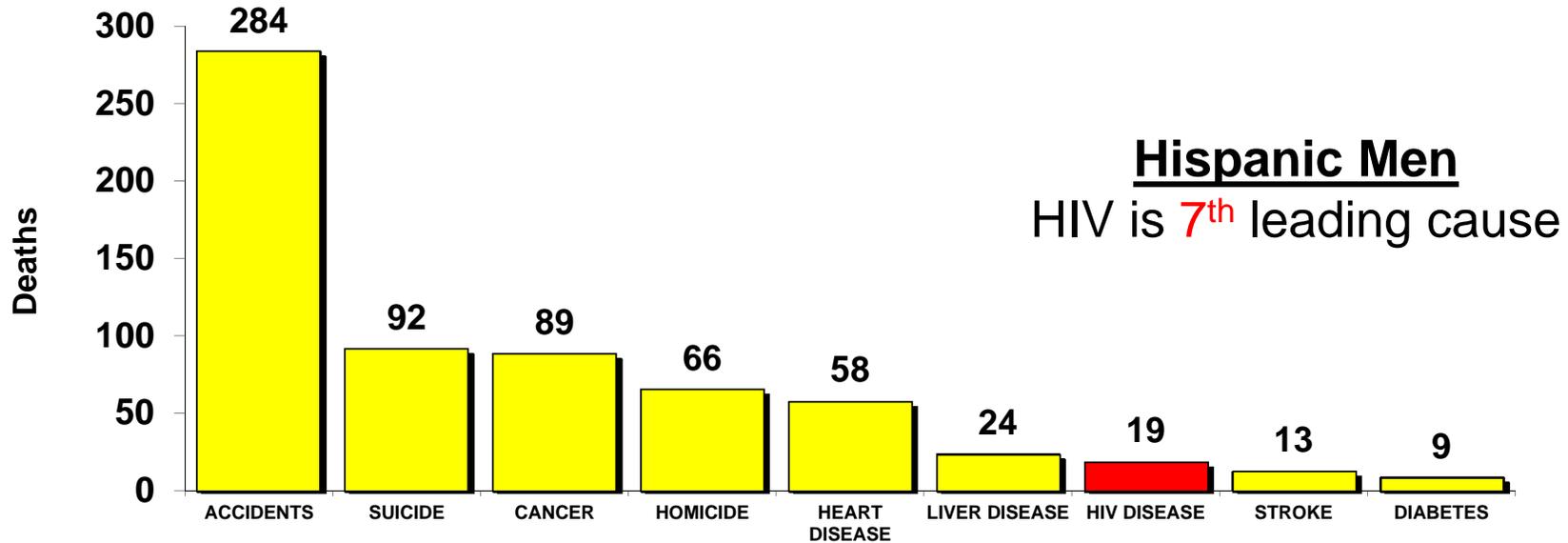
Leading Causes of Death Among Whites 25-44 Years Old by Sex, 2014, Florida



Leading Causes of Death Among Blacks 25-44 Years Old by Sex, 2014, Florida



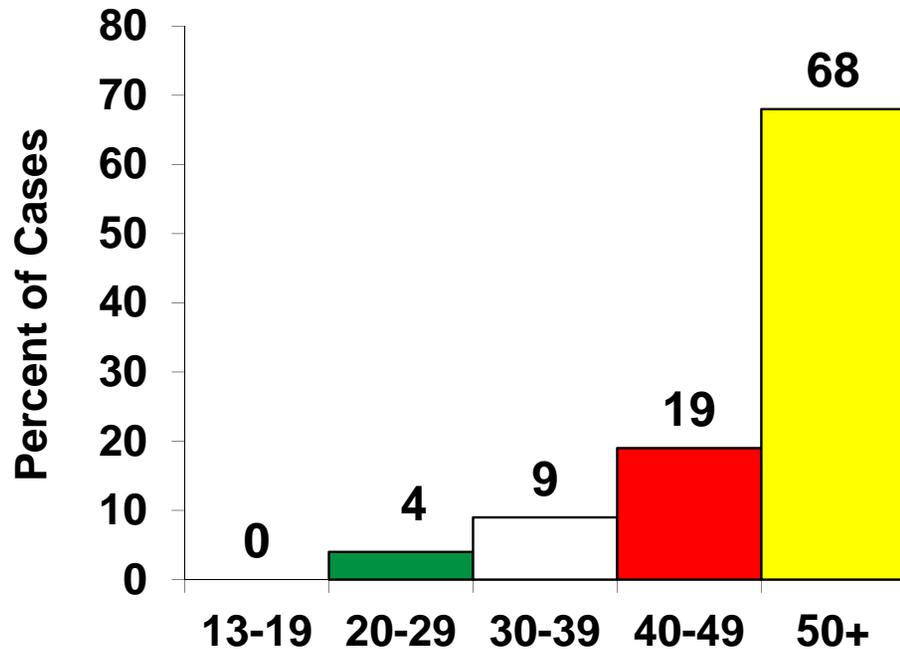
Leading Causes of Death Among Hispanics 25-44 Years Old by Sex, 2014, Florida



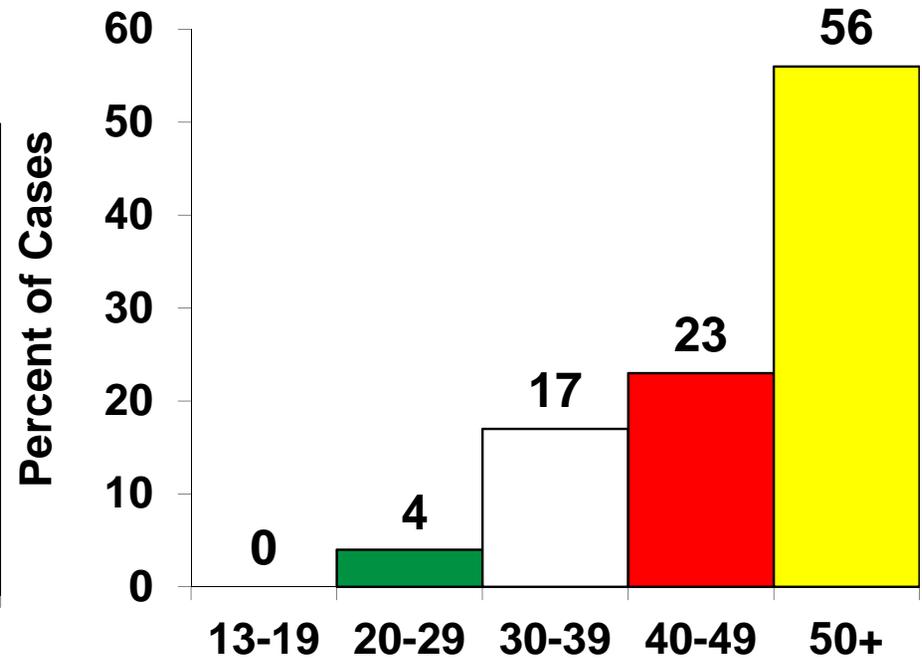
Ten Leading Causes of Deaths by Age Group, Florida, 2014							
Age Groups							
Rank	15-19	20-24	25-34	35-44	45-54	55-64	65+
1	Unintentional Injury 199	Unintentional Injury 487	Unintentional Injury 1,045	Unintentional Injury 951	Malignant Neoplasm (Cancer) 2,965	Malignant Neoplasm (Cancer) 7,533	Heart Diseases 36,391
2	Homicide 112	Suicide 174	Suicide 369	Malignant Neoplasm (Cancer) 673	Heart Diseases 1,964	Heart Diseases 4,572	Malignant Neoplasm (Cancer) 30,769
3	Suicide 85	Homicide 173	Homicide 304	Heart Diseases 532	Unintentional Injury 1,265	Unintentional Injury 1,162	Chronic Lower Respiratory Disease 9,538
4	Malignant Neoplasm (Cancer) 44	Malignant Neoplasm (Cancer) 56	Malignant Neoplasm (Cancer) 224	Suicide 391	Chronic Liver Disease & Cirrhosis 630	Chronic Lower Respiratory Disease 1,145	Cerebrovascular Diseases 8,296
5	Heart Diseases 17	Heart Diseases 40	Heart Diseases 184	Homicide 187	Suicide 586	Chronic Liver Disease & Cirrhosis 1,037	Alzheimers Disease 5,766
6	Congenital Malformations 11	HIV 13	HIV 80	Chronic Liver Disease & Cirrhosis 165	Diabetes Mellitus 416	Diabetes Mellitus 961	Diabetes Mellitus 3,762
7	Cerebrovascular Diseases 4	Chronic Lower Respiratory Disease 8	Diabetes Mellitus 38	HIV 152	Cerebrovascular Diseases 336	Cerebrovascular Diseases 815	Unintentional Injury 3,707
8	Chronic Lower Respiratory Disease 3	Cerebrovascular Diseases 8	Chronic Liver Disease & Cirrhosis 33	Diabetes Mellitus 137	Chronic Lower Respiratory Disease 300	Suicide 593	Nephritis, Nephrotic Syndrome, Nephrosis 2,482
9	Septicemia 3	Influenza & Pneumonia 7	Chronic Lower Respiratory Disease 30	Cerebrovascular Diseases 102	HIV 280	Nephritis, Nephrotic Syndrome, Nephrosis 341	Influenza & Pneumonia 2,092
10	Diabetes Mellitus 2	Pregnancy, Childbirth and the Puerperium 7	Cerebrovascular Diseases 30	Influenza & Pneumonia 71	Influenza & Pneumonia 165	Viral Hepatitis 307	Parkinsons Disease 1,978

Deaths* Among Adults with HIV Disease by Age and Sex, 2014, Florida

Males
N=1,081



Females
N=486



Note: Overall, the majority of deaths among adults with HIV disease are individuals aged 50 and older. In 2014, the proportion of males (68%) aged 50 and older who died with HIV disease is higher than the proportion of females (56%) aged 50 and older.

* Adult (13+) cases diagnosed with HIV disease in Florida, who died regardless of the cause or residence or place at death. Data as of 06/30/2015

Median Survival Time (in months) from AIDS Diagnosis to Death, by Race/Ethnicity and Time Period of Death, 1980-2014, Florida

	<u>Time Period of Death</u>				
	<u>Early Years</u>		<u>HAART</u>		
	<u>1980-1988</u>	<u>1989-1995</u>	<u>1996-2000</u>	<u>2001-2006</u>	<u>2007-2014</u>
White	4 mo.	15 mo.	32 mo.	61 mo.	90 mo.
Black	1 mo.	10 mo.	22 mo.	42 mo.	66 mo.
Hispanic	3 mo.	12 mo.	24 mo.	46 mo.	67 mo.
Amer. Ind.*	n/a	14 mo.	21 mo.	28 mo.	75 mo.
Asian*	1 mo.	13 mo.	24 mo.	21 mo.	26 mo.

Note: Survival times increased for all race/ethnicity groups with the introduction of AZT in 1987. With the introduction of Highly Active Antiretroviral Therapy (HAART) in 1996, survival time increased significantly for all racial/ethnic groups, and continues to increase through the present, although disparities persist.

Special note: The median survival time means that half the deaths occurred before and half occurred after the number of months shown.

* The median survival time for American Indians and Asians may be artificially deflated due to the low number of American Indians and Asians diagnosed since 2007.

**Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015)



Median Survival Time (in months) from AIDS Diagnosis to Death, by Sex and Total Deaths for this Period, 2007-2014, Florida

Period of Death: 2007 - 2014		
<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
77 mo.	62 mo.	72 mo.
10,024 deaths	4,448 deaths	14,472 deaths

Note: These data show that the median survival time for females is about 15 months less than the median survival time for males. This could be due to women being diagnosed with AIDS later in their course of illness thus shortening their apparent survival time. However, it could also reflect that females enter care for HIV disease later, have more drug adherence issues, or a host of other factors that could be damaging to a patient's underlying health status and outcomes.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015)



Median Survival Time (in months) from AIDS Diagnosis to Death, by Race/Ethnicity and Sex, and Total Deaths for this Period, 2007-2014, Florida

Period of Death: 2007 - 2014			
	<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
White	97 mo.	64 mo.	90 mo.
	3,226 deaths	702 deaths	3,928 deaths
Black	69 mo.	61 mo.	66 mo.
	4,815 deaths	3,126 deaths	7,941 deaths
Hispanic	69 mo.	62 mo.	67 mo.
	1,679 deaths	484 deaths	2,163 deaths
Amer. Ind.	86 mo.	45 mo.	75 mo.
	35 deaths	13 deaths	48 deaths
Asian	26 mo.	26 mo.	26 mo.
	43 deaths	17 deaths	60 deaths

Note: These data show that the differences in median survival time by gender discussed on the previous table are not uniform for all racial/ethnic groups. For instance, the gender difference among whites and American Indians are much larger than the difference between genders for blacks, Hispanics and Asians. This confirms the assertion that there are no biologic differences between these groups that account for their differences in outcomes but rather it is most likely social and cultural barriers that are leading to poorer outcomes.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015)



**Median Survival Time (in months)
from AIDS Diagnosis to Death Among Adults (Age 13+),
by Mode of Exposure and Sex,
and Total Deaths for this Period, 2007-2014, Florida**

Period of Death: 2007 - 2014			
	<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
MSM	78 mo.	---	78 mo.
	4,963 deaths	---	4,963 deaths
IDU	96 mo.	85 mo.	91 mo.
	1,447 deaths	1,014 deaths	2,461 deaths
MSM/IDU	109 mo.	---	109 mo.
	869 deaths	---	869 deaths
Heterosexual	54 mo.	53 mo.	54 mo.
	2,673 deaths	3,341 deaths	6,014 deaths

Note: The median survival time is shorter among adult males and females who have been exposed to HIV through heterosexual risk.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015)



**Median Survival Time (in months)
from AIDS Diagnosis to Death Among Adults (Age 13+),
by Age and Sex, and Total Deaths for this Period,
2007-2014, Florida**

Period of Death: 2007 - 2014			
	<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
13-29	104 mo.	92 mo.	96 mo.
	904 deaths	732 deaths	1,636 deaths
30-39	117 mo.	84 mo.	106 mo.
	2,686 deaths	1,296 deaths	3,982 deaths
40-49	78 mo.	57 mo.	71 mo.
	3,371 deaths	1,293 deaths	4,664 deaths
50+	37 mo.	25 mo.	33 mo.
	3,038 deaths	1,078 deaths	4,116 deaths

Note: The age group with the longest median survival time is 30-39, followed closely by the 13-39 age group.

Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015)



**Median Survival Time (in months)
from AIDS Diagnosis to Death,
Rural vs. Non-Rural
and Total Deaths for this Period, 2007-2014, Florida**

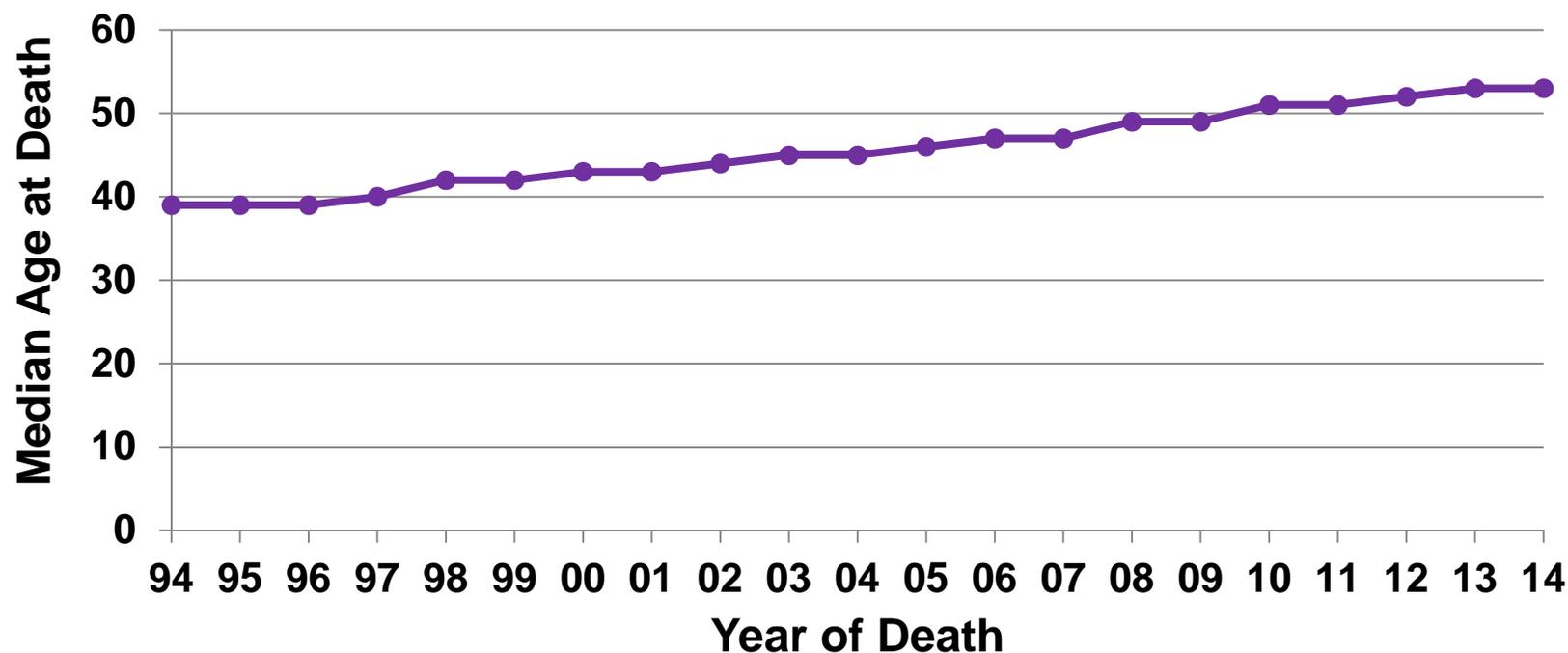
Period of Death: 2007 - 2014		
<u>Rural</u>	<u>Non-Rural</u>	<u>TOTAL</u>
61 mo.	70 mo.	70 mo.
555 deaths	13,359 deaths	13,914 deaths

Note: These data show that the median survival time for rural cases is about 9 months less than for non-rural. This could be attributed to late diagnosis among rural residence and/or limited access to care in the rural communities.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015)



Median Age at Death among HIV/AIDS Cases Known Dead Regardless of Cause, 1994 – 2014, Florida

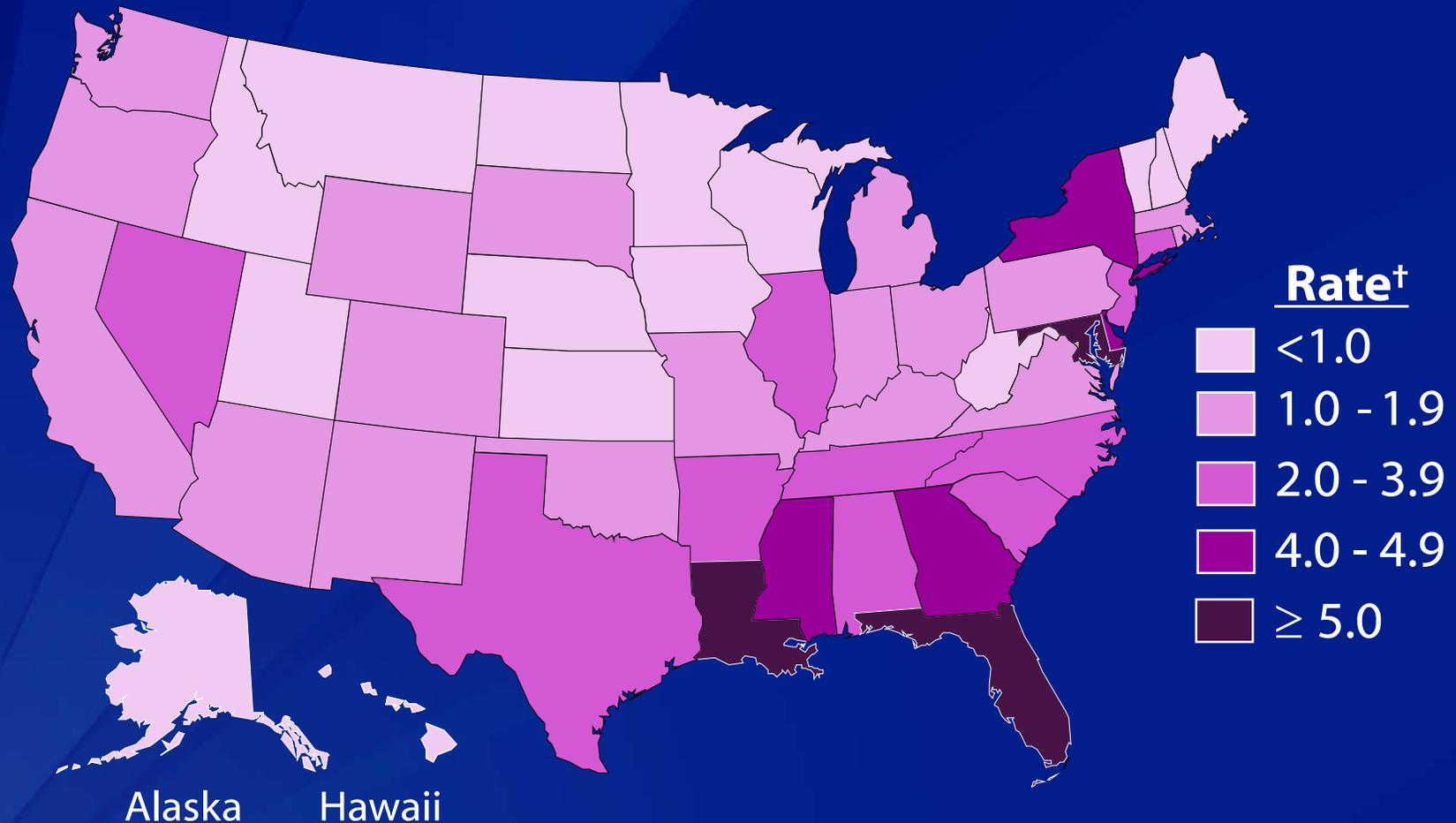


The median age at death among HIV/AIDS cases increased from 39 years in 1994 to 53 in 2014. This is a reflection of the trend in delaying progression from HIV to AIDS and therefore delaying the occurrence of opportunistic infections and other conditions that often lead to death.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2015).



Age-Adjusted* Rate† of Death due to HIV Infection in the general population, by State, United States, 2010



*Standard: age distribution of 2000 US population
†Per 100,000 population.



Conclusions

- ⦿ Florida has one of the highest HIV disease death rates in the U.S.
- ⦿ HIV disease-related deaths in Florida increased rapidly in the 1980's and peaked in 1995 after which there was a sharp decline. After 1998 the annual number of HIV disease-related deaths remained relatively stable. However, since 2007 Florida has seen an annual decrease in the number of HIV disease-related deaths.
- ⦿ The decrease in the HIV disease-related death rate starting in 1996 was largely due to improvements in antiretroviral therapies, including highly active anti-retroviral therapies (HAART). Additionally, improved treatments for and prophylaxis of opportunistic infections may also have contributed to this decrease.
- ⦿ The median survival time from AIDS diagnosis to death has increased dramatically from 1-4 months in the 1980's to 3-7 years in the 2000's. This is also due to improvements in treatments for HIV disease and prevention of opportunistic infections. As a result, persons with HIV disease are living longer on average today than they were in 1995.

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